American Recovery and Reinvestment Act of 2009

Progress to Date

March 23, 2010

U.S. DEPARTMENT OF ENERGY

Oak Ridge Office

ARRA JOB CREATION IN OAK RIDGE: With the influx of $1.1 billion in American Recovery and Reinvestment Act funding since 2009, the Department of Energy has been able to create or save nearly 2,000 jobs across the Oak Ridge Reservation, while accelerating important mission goals.

Because of advance planning, Oak Ridge was able to respond quickly when Recovery Act funds became available, and has already far surpassed the estimated goal of 1,500 jobs created or saved.

Employment Numbers by Program	
Environmental Management	1,453
Office of Science	335
Energy Efficiency & Renewable Energy	158
Other	39
Total	**1,985**

The Oak Ridge Office expects continued job growth through 2010 as a result of Recovery Act funding. Those jobs will enhance current DOE missions at the Oak Ridge National Laboratory and the Y-12 National Security Complex; accelerate the start of remaining environmental cleanup work at those and other sites in Oak Ridge; and position Oak Ridge for new missions in the future. The chart below illustrates the job creation from Recovery Act funds in Oak Ridge.

Employment Numbers by Contractor							
	UT-Battelle	Bechtel Jacobs	B&W	ORISE	Pro2Serve	WAI	Total
Prime Contractors	66	121	250	16	25	0	478
Sub Contractors	691	91	477	48	0	200	1,507
Total							**1,985**

**Numbers to date (as of February 28)*

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SCIENCE

Chemical & Materials Science Building

CHEMICAL AND MATERIALS SCIENCE BUILDING CONSTRUCTION: As a result of Recovery Act funds, this $95 million project ($60.6 million in Recovery Act funding) at the Oak Ridge National Laboratory (ORNL) will provide 160,000 square feet of modern laboratories and associated space for research and development in areas such as batteries and solar panels. Construction was able to start a year earlier than planned and is expected to be completed ahead of schedule in 2011.

Jobs created to date: 242

JAGUAR XT5 SIX-CORE UPGRADE PROJECT: Nearly $20 million in Recovery Act funding was applied to upgrade ORNL's Leadership Computing Facility Cray XT5 Jaguar supercomputer. The upgrade from a four-core to six-core processor enhanced the supercomputer's performance by 70 percent and brought it a number one ranking on the most recent TOP500 list of the world's fastest supercomputers. This unprecedented growth in computing power is already resulting in improved modeling and simulation for climate science, fuel-efficient engine design and the development of advanced materials for energy production, transmission, and storage.

Jaguar XT5

Jobs created: 24

BEAMLINE 13 HV/AC INSTALLATION: Recovery Act funding supports the Fundamental Neutron Physics Beamline (FNPB) at ORNL's Spallation Neutron Source. The FNPB received $600,000 under the Recovery Act, which accelerated the acquisition of major equipment and components for utilities and HV/AC systems, and decreased project risk. This award provides accelerated funding for major items of equipment and will enable procurement of hardware earlier than planned.

Jobs created: 32

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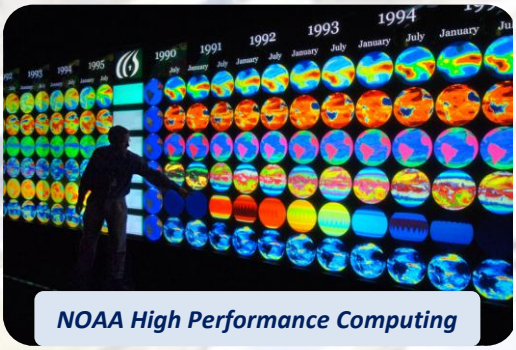
RESEARCH & DEVELOPMENT ON ALTERNATIVE ISOTOPE PRODUCTION TECHNIQUES: This $4 million ARRA-funded project supports research for the development of new and innovative isotope production methods and improvements for isotopes to be used in medical and scientific applications. This project involves three research and development activities:

- Production of Thorium-229 in a Proton Accelerator;
- Ionic Liquids as Solvents for Improved Production of Radioisotopes; and
- Integration of Centrifuge and Electromagnetic Separation for Preparation of Stable Isotopes.

NOAA HIGH-PERFORMANCE COMPUTING: Under a program known as "Work for Others" that is managed by the Oak Ridge Office, approximately $75 million in Recovery Act funds was received from the National Oceanic and Atmospheric Administration (NOAA), for high-performance computing operations at ORNL. As part of the Specialized High-Performance Computing Collaboration for Climate Modeling, ORNL is doing more work to develop improved climate data and model experiments for NOAA. The focus of this ongoing research includes connecting existing NOAA weather and climate models to advanced high-performance computers at ORNL. Models will be used to understand and predict climate variability and change, and produce decision-support tools to facilitate understanding climate change, mitigation strategies, and adaptation options for the United States. The objective is to dramatically increase the skill, resolution, complexity, and throughput of computer model-based projections of climate variability to enable sound decision-making on issues of national importance, such as future energy use and technology options.



NOAA High Performance Computing

Jobs created to date: 7

ENVIRONMENTAL MANAGEMENT

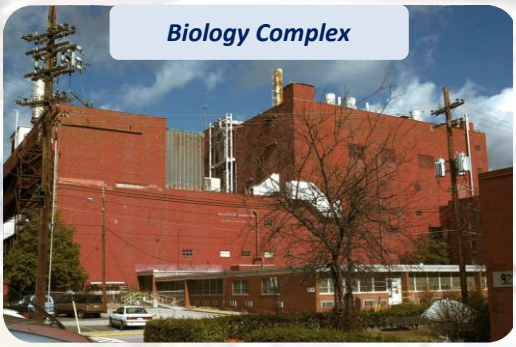
ENVIRONMENTAL MANAGEMENT WASTE MANAGEMENT FACILITY (EMWMF) EXPANSION: Construction of a 465,000 cubic yard expansion (approximately 113,000 dump truck loads) is currently underway using $35 million from the Recovery Act. The expansion of the EMWMF will save millions of dollars in shipping costs by allowing the Department of Energy to dispose of its waste at this on-site disposal cell, including


EMWMF Expansion

waste generated by new initiatives included in the Recovery Act. The project is now 75% complete and is forecasted to be completed in June of 2010, under cost and one month ahead of schedule.
Jobs created to date: 40

AT THE Y-12 NATIONAL SECURITY COMPLEX

BIOLOGY COMPLEX: A major step toward a skyline-changing transformation at the Y-12 National Security Complex will commence in spring 2010 as demolition begins on four buildings in the former Biology Complex. The project will eliminate 135,812 square feet of building space and is the largest of three Y-12 demolition projects funded by the Recovery Act. The Biology Complex demolition is part of Y-12's ongoing effort to significantly reduce its footprint, a process that is being accelerated by Recovery Act funding. The biology buildings have been vacant since late 2003 when the last remaining research activities were moved to other facilities. The first buildings in the Biology Complex were built to expand Y-12's uranium processing capacity during World War II. The Biology Complex subsequently was used for a variety of biological research initiatives. Its most famous work, the mouse genetics program, made significant contributions in the areas of obesity, diabetes, radiation, and other human health issues. The Complex was expanded multiple times throughout its decades of operation. This project is approximately 35% complete – slightly ahead of schedule. Deactivation and abatement activities have been completed and demolition will start soon, with demolition complete by August 2010. $25 million in Recovery Act funds will complete the project.


Biology Complex

Jobs created to date: 92

BUILDINGS ALPHA 5 AND BETA 4 LEGACY MATERIAL DISPOSITION: Y-12's Beta 4 (Building 9204-4) and Alpha 5 (Building 9201-5) facilities date back to the 1940s and are currently storing years of legacy material from past plant operations. Recovery Act funding will support work to remove the legacy materials from these facilities to clear the way for eventual demolition. In Alpha 5, the entire facility, some 613,000 square feet, will be cleared of materials, while approximately 82,000 square feet of space in Beta 4 will be cleared of materials. Work on Alpha 5 is approximately 25% complete, while work on Beta 4 is 47% complete. Total cost


Alpha 5

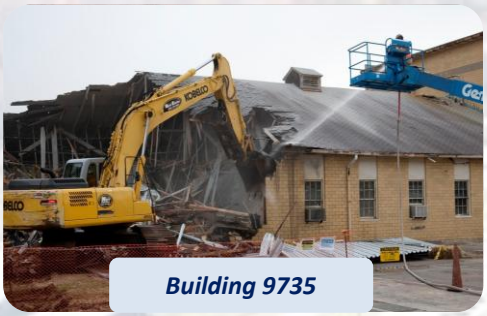

Beta 4

for both projects is approximately $122 million, all provided under the Recovery Act.
Jobs created to date: 387

SALVAGE YARD: The Old Salvage Yard is a seven-acre area containing 1100 containers and piles of legacy waste from past operations. The yard was used from the 1970s until the mid-1990s. Using $33 million of Recovery Act funds, material in the Salvage Yard will be re-inspected before being shipped for disposal to the Nevada Test Site or placed in the Environmental Management Waste Management Facility. To date, the project is 36% complete, with approximately 2600 cubic meters of waste disposed.
Jobs created to date: 160


Salvage Yard

BUILDING 9735: On February 8, 2010, four months ahead of schedule, Building 9735 became the first of the Recovery Act-funded deactivation and demolition projects at Y-12 to be completed. Built in 1946 as an engineering laboratory, Building 9735 ceased operations in the mid-1990s. The demolition of this 15,043-square-foot facility also completes the leveling of an entire row of engineering buildings. Like other aging buildings at the Y-12 site, the deterioration of this structure had been accelerating, making work in the area more hazardous. The project involved complete deactivation and demolition of the building as well as the disposition of approximately 1,911 cubic meters of material and waste to the Y-12 Sanitary and Industrial Waste Landfills and approximately 31 cubic meters to the Nevada Test Site. The building had asbestos and lead but minimal radiological contamination. Total project cost was $4 million.
Jobs created: 42


Building 9735

AT THE OAK RIDGE NATIONAL LABORATORY

BUILDING 3026: Building 3026 once functioned as the original Radioisotope Development Laboratory assisting with work related to the Graphite Reactor. However, after decades of nonuse and decay, the facility presented health and safety hazards to the ORNL workforce and the public. With $10.6 million in Recovery Act funding the building was demolished in January 2010. All that remains of the original facility


Building 3026

remains of the original facility are the concrete hot-cell structures now coated in a special protective paint. These structures are scheduled to be removed in the next phase of operations.
Jobs created to date: 166

BUILDING 2000 COMPLEX: This project includes the complete demolition and disposition of surplus and hazardous facilities at ORNL to redevelop the site for science and technology research. Demolitions will include six buildings within the 2000 Complex (nearly 37,000 square feet). Work involves pre-demolition facility stabilization measures (asbestos and hazardous materials removal), building demolition, and transfer of materials to onsite landfills.
Jobs created to date: 24

OTHER PROJECTS ON THE OAK RIDGE RESERVATION

TRANSURANIC WASTE PROCESSING FACILITY: Recovery Act funds obligated to the Transuranic Waste Processing Facility (TWPC) are accelerating the disposal of hazardous waste by providing multiple shift operations and upgrading faculties. Through these improvements, the disposal schedule is expected to be completed a year ahead of schedule, saving taxpayers an estimated $96 million.
Jobs created to date: 87


TRU Waste Processing Facility

As many Recovery Act projects in Oak Ridge move towards completion, many others are transitioning from their preliminary phases into groundbreaking or demolition work. The projects listed above are not intended to be an exhaustive list, but rather an overview of the Department of Energy's Recovery Act projects in Oak Ridge.

As contracts are awarded, transformation will be visible around the Oak Ridge Reservation. Recovery Act funds are allowing many planned baseline projects to begin sooner than expected allowing Oak Ridge to eliminate excess facilities, clean-up environmental legacies, and construct modern infrastructure to conduct advanced energy research.